



JAMES R MORRIS
Vice President, Nuclear Support
Nuclear Generation

Duke Power
526 South Church St.
Charlotte, NC 28202

Mailing Address:
EC07H / PO Box 1006
Charlotte, NC 28201-1006

704 382 6401
704 382 6056 fax
james.morris@duke-energy.com

June 9, 2005

U. S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

ATTENTION: Document Control Desk

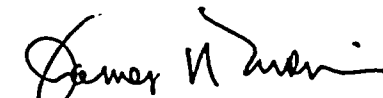
SUBJECT: Duke Energy Corporation
McGuire Nuclear Station, Units 1 & 2
Docket Nos. 50-369 and 50-370
Catawba Nuclear Station, Units 1 & 2
Docket Nos. 50-413, 50-414
Response to Request for Additional Information, NRC Bulletin 2003-01,
Potential Impact of Debris Blockage on Emergency Sump Recirculation at
Pressurized Water Reactors

On August 7, 2003, Duke Energy Corporation (Duke) provided a response to NRC Bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized Water Reactors." On May 27, 2004, this response was supplemented to provide additional description of Duke's evaluation of recommended interim compensatory measures. A revision to Duke's commitments regarding Bulletin 2003-01, specifically the early manual start of a containment air return fan during certain small break loss of coolant accidents, was submitted on December 16, 2004, with an additional letter regarding status submitted on April 28, 2005.

On April 22, 2005 the NRC issued a request for additional information regarding two potential candidate operator actions that were discussed in Duke's May 27, 2004 submittal. Please find attached Duke's response to the April 22, 2005 request for additional information. For the reasons described in Attachment 1, the current licensing bases for Catawba and McGuire do not support implementation of either Candidate Operator Action (COA) #A1a or COA A11 as interim compensatory actions.

No commitments are contained in this letter. If you have questions or need additional information, please contact Mary Hazeltine at 704-382-5880.

Very truly yours,



James R. Morris

Attachment

A103

James R. Morris, affirms that he is the person who subscribed his name to the foregoing, and that all the matters and facts herein are true and correct to the best of his knowledge.

James R. Morris
Vice President, Nuclear Support

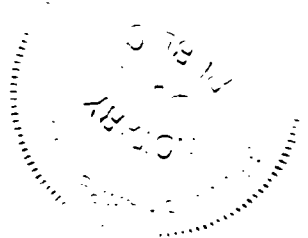
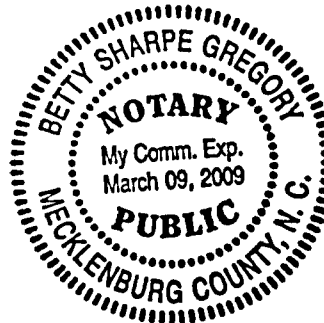
Subscribed and sworn to me:

9th day of June 2005
Date

Betty Sharpe Gregory
Notary Public

My Commission Expires:

3/9/09
Date



SEAL

xc: W. D. Travers, Regional Administrator
U.S. Nuclear Regulatory Commission, Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303

S. E. Peters, Project Manager (CNS & MNS) (Addressee Only)
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Mail Stop O-8 G9A
Rockville, MD 20852-2738

J. B. Brady
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
McGuire Nuclear Station

E. F. Guthrie
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Catawba Nuclear Station

Attachment 1
Response to April 22, 2005 Request for Additional Information

The NRC staff has requested that Duke provide a technical basis for not evaluating and rejecting the following two candidate operator actions (COA), including any difficulties perceived in implementing the CAOs with respect to AST and containment pressure:

1. COA #A1a, stopping one train of containment spray early in an event and
2. COA #A11, preventing or delaying containment spray for small break Loss of Coolant Accidents in ice condenser plants (moving the containment spray setpoint),

Response 1

Catawba and McGuire do not plan to secure one spray pump for the following reasons:

- A. WOG guidance does not recommend securing a spray pump, and
- B. Current licensing basis does not support securing a spray pump.

A. WOG Guidance

Westinghouse Owners Group (WOG) WCAP-16204, revision 1 states the following regarding Candidate Operator Action (COA) #A1a:

“However, in general, implementation of this step is not recommended for plants with ice condenser containment cooling systems for the following reasons:

- The Westinghouse ice condenser containment plants are especially sensitive to the single failure of the operating spray pump once ice condenser heat removal capability is exhausted. The sensitivity is driven by containment size, lower containment design pressure, and available containment heat removal systems.
- For a large-break LOCA, preliminary evaluations indicate that insufficient time would be available for the operator to respond to the loss of the operating containment spray following the exhaustion of heat removal capability by the ice condenser system.
- For a small-break LOCA, preliminary evaluations indicate sufficient time would be available for the operator to respond to the loss of the operating spray pump. This condition, however, drives the applicability of this COA to only small-break LOCA, events that are not as challenging from the perspective of debris generation, transport, and differential pressure.

Attachment 1
Response to April 22, 2005 Request for Additional Information

B. Current Licensing Basis Safety Analysis

Duke's evaluation of this strategy similarly concludes that the single failure criterion prevents proceeding with this strategy within the current licensing basis. The current licensing bases for Catawba and McGuire take credit for two 100 percent capacity containment spray pumps. This redundancy provides a continuous source of containment spray during an event when considering a single failure. However, if an operating containment spray pump is shut down, a single failure would interrupt the containment spray function for a period of time until manual operator actions could restart the shutdown pump. The consequences of such a period with no containment spray were evaluated per the single failure criterion.

The two primary elements of the safety analysis that were considered are the containment pressure response and the radiological consequences.

Containment pressure response was evaluated by performing scoping calculations for an interruption of the containment spray function. These scoping calculations were conservative in that the interruption of the containment spray function was modeled as a second failure which occurs immediately following depletion of the ice bed. These calculations demonstrated that if a typical operator response time of 10 minutes to restart the intentionally secured containment spray pump was assumed, the design containment peak pressure of 15 psig would be exceeded. Because the containment peak design pressure would be exceeded in this case, Duke concludes that the current licensing basis containment response analysis does not support securing a spray pump.

Radiological consequences were evaluated and it was concluded that existing licensing basis methodology for performing this analysis will not support the proposed interruption to the containment spray function. An evaluation of the current license basis analyses of radiological consequences of the design basis LOCA at Catawba and McGuire was performed to determine the likely impact of containment spray interruption. It was concluded that the impact of an interruption of containment spray on the current licensing basis LOCA would result in a thyroid radiation dose at the Exclusion Area Boundary in excess of the 10 CFR 100 limit and a control room thyroid radiation dose in excess of the regulatory guideline value in Standard Review Plan Section 6.4.II.

Duke's May 27, 2004 submittal stated that alternate source term methodology might support a 15 minute period of time to successfully restart a containment spray train. However alternate source term methodology has not been approved for either Catawba or McGuire, and therefore cannot be used to perform the radiological analysis for the interruption to the containment spray function.

Attachment 1
Response to April 22, 2005 Request for Additional Information

For the reasons described above, the current licensing bases for Catawba and McGuire do not support implementation of COA #A1a as an interim compensatory action.

Response 2

Preventing or delaying containment spray by raising the containment spray setpoint cannot be supported by the existing licensing basis radiological consequences analysis for the design basis LOCA. This radiological analysis credits the operation of containment spray for iodine removal during the design basis LOCA. An evaluation of the current licensing basis LOCA analyses at Catawba and McGuire was performed to determine the likely impact of containment spray setpoint elevation. It was concluded that the impact of an elevated containment spray setpoint on the current licensing basis LOCA would result in a thyroid radiation dose at the Exclusion Area Boundary in excess of the 10 CFR 100 limit and a control room thyroid radiation dose in excess of the regulatory guideline value in Standard Review Plan Section 6.4.II. Therefore, the current licensing basis methodology for performing this radiological consequences analysis is not capable of supporting such a modification of the containment spray setpoint.

Duke's May 27, 2004 submittal stated that alternate source term methodology might support a delayed auto-start of containment spray. However alternate source term methodology has not been approved for either Catawba or McGuire, and therefore cannot be used to perform the radiological analysis for a delayed auto-start of containment spray.

For the reasons described above, the current licensing bases for Catawba and McGuire do not support implementation of COA #A11 as an interim compensatory action.